

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph **[0006]** with the following amended paragraph:

[0006] In accordance with another important aspect of the invention, UWB pulses for each of the users have a ~~carrier~~ frequency selected from a plurality of available frequencies, and the frequencies are reused in a spatial sequence such that the beam associated with any user is spatially separated as far as possible from the nearest user beam using the same frequency.

Please replace paragraph **[0016]** with the following amended paragraph:

[0016] Instead of time reuse to identify particular pulses as being associated with particular users, the system may employ frequency reuse to separate the users. As shown in Fig. 4, for example, a three-array antenna is designed to generate three spatially separated beams from each of its three arrays. Antenna array #1 generates three spatially separated beams to users A1, B1 and C1, antenna array #2 generates three spatially separated beams to users A2, B2 and C2, and antenna array #3 generates three spatially separated beams to users A3, B3 and C3. In accordance with the frequency reuse principle as used here, the beams directed to users A1, A2 and A3 use a first frequency. Likewise, the beams directed to users B1, B2 and B3 use a second frequency, and the beams directed to users C1, C2 and C3 use a third frequency. That is to say, the UWB pulses associated with users A1, A2 and A3 have a first ~~carrier~~ frequency, while the pulses associated with users B1, B2 and B3 have a second ~~carrier~~ frequency, and the pulses associated with users C1, C2 and C3 have a third ~~carrier~~ frequency. Using this configuration, pulses for all nine users may overlap in time because they are separated spatially and by frequency at the antenna arrays. On any one of the arrays, the pulses intended for, say, user B are distinguishable from the signals intended for users A and C, because there is both frequency separation and spatial separation of the beams generated for that particular array. Moreover, the pulses for users using the same frequency, such as users A1, A2 and A3, are spatially separated in that they use separate physical antenna arrays.